

JOURNAL OF THE  
ASSOCIATION FOR  
**PHYSICAL &  
MENTAL  
REHABILITATION**

Founded by

John Essie Davis, Sc. D.

BI-MONTHLY ISSUE

NOVEMBER, 1947

TABLE OF CONTENTS

1. "Physical Education in Psychiatry"—By Dr. Edward D. Greenwood, Director Southard School, Menninger Foundation, Topeka, Kansas.
2. "Corrective Physical Rehabilitation in Relation to Other Therapy"—By Mr. Russell Dean, Executive Officer, Medical Rehabilitation, Veterans Administration, Washington, D. C.
3. "A Method of Moving From a Prone Position to Standing Position Using Crutches Only"—By Louis M. Frazier, Jr., Training Assistant, Corrective Therapy, VAMTG, Kennedy Hospital, Memphis, Tennessee.
4. "Report on Veterans Administration Course of Instruction in Corrective Physical Rehabilitation"—By Francis G. Luoma, Chief, Corrective Physical Rehabilitation, Coral Gables, Florida.
5. "The Precision Walker for Gait Training"—By Louis F. Mantovano, Chief, Corrective Therapy, VAH, Manhattan Beach, Brooklyn, 29, N. Y.
6. "Corrective Therapy Activities for Pre-Frontal Lobotomies"—By Murray L. Appel and John Metz, Jr., Corrective Therapists, Bronx V. A. H., New York, N. Y.
7. "Notes of Interest."

OFFICERS

President, Jack Jones—Atlanta, Ga.

President Elect, Sam Boruchov—

Long Island, New York

Vice President, Leo Berner—New York

Past President—Chrys Kopf, Lyons, N. J.

Treasurer, EH Ellis—Canandagua, N. Y.

Secretary, Carl Purcell—Chicago, Ill.

Director Publications Research,

Paul Roland—Danville, Ill.

ea  
sta  
in  
en  
ed  
co  
an  
th  
ed  
Th  
in  
wh  
do  
fe

St  
ic  
to  
ma  
th  
M  
th  
ed  
th  
de  
an  
I  
en  
ne  
me  
an  
ed  
th  
yo  
an  
de  
so  
ph  
me  
gr  
th

of  
in  
co  
an  
we  
th  
do  
wh  
us  
he  
ad  
ho  
wa  
be  
pa  
V.

Pl

## "PHYSICAL EDUCATION IN PSYCHIATRY"

By DR. EDWARD D. GREENWOOD

Director Southard School, Menninger Foundation, Topeka, Kansas

My topic is the topic of "Physical Education in Psychiatry." It is rather easy to understand some of the problems we find at the present time when we start looking back on some of the history of physical education in hospitals or in industry. Physical education in a psychiatric set-up was a rather rare phenomenon. With the exception of about three advanced private hospitals, physical education had no recognition; and even in those hospitals physical education was considered a sort of chaff to spend some time on, taking the patient off the ward and running around, like taking the horse around the track. Some hospitals thought further along those lines. Somebody reviewed the history of physical education and found that physical education did have something to contribute. The word "education" was stressed more than the physical concept. Those of you in the VA are aware that physical education again was considered a sort of thing which some person in the organization was accomplishing, spending some time doing. Physical education was fine. Nobody insisted you had to do it. Nobody felt it was something you wanted to do.

During the war I am sure you have heard many people—you have heard Dr. Stafford yesterday and Dr. Rathbone—tell about the excellent program of physical education. The use of physical education for conditioning soldiers had more to do than purely getting them in physical shape. It had the additional factor of making these soldiers aware of their responsibility, and made them understand the team concept. It made them understand what it meant to give and take. Many of our young boys did not have an opportunity prior to that time to realize that you have to give a certain amount in order to receive and so the physical education program was the best possible opportunity for explaining and showing the application of inter-play of personalities. We found also physical education developed men physically and gave them opportunities for development of endurance, and gave them the most important thing, the establishment of morale. I am quite sure you have heard reports, and you can cite from your own experience examples, where men who had all the ingredients of being good soldiers never succeeded because they did not ever accept or develop the concept of morale. You have seen divisions that had excellent leaders, superior officers, and yet their men were not capable of following. So we know that physical education again played a great part in correcting that. The team play prior to the actual combat phase could be used as a predictive guide for the type of unit you were going to have in combat. The division that could play and play hard and enjoy play was the division that was allowed to fight. But that had to be developed only through a physical education concept. After combat started and soldiers were injured, some physically, some mentally and emotionally, again physical education was called upon to offer reconditioning to re-establish these men in some type of service. It fell upon the physical educator to make a program and I say he had to make a program which would offer opportunities for the re-establishment of inter-personal relations.

It was such a simple thing to walk around the hospital and watch a group of soldiers lying around in bed and discussing things, saying, "Why weren't you in combat? We had a terrific air raid. We were hit," etc., what we would call in common language moping and relating their experiences. You would go to another hospital in which a reconditioning program was established and you would find a different attitude. You would find the attitude that, "This was in the past. It happened. Now my responsibility is to get well and to get out and do something." So physical education helped there. When the war was over—which we think is not over sometimes, because sometimes the newspapers frighten us a bit—we found the responsibility in physical education to offer additional help for those who could not succeed or did not succeed or were finding civilian adjustment a difficult task. I think you are all aware—those working in VA hospitals are fully aware that the peak load of our responsibility for the post-war soldiers will not be reached for at least five to ten years. Our stresses will be different, our problems will be different, but we feel from experience in the past, from the records of World War I and the post-war period, that our load in VA hospitals will increase, particularly in psychiatric spheres. I believe Dr.

\*Presented at the First Scientific and Clinical Session of the Association for Physical and Mental Rehabilitation, June 5-7, Chicago, Illinois.

Blaine and Dr. Menninger feel in 1955 should be our approximate peak. The peak will be much higher than we have at the present time. That is all for this general introduction, about the background of physical education in psychiatry.

Now, about the problem in physical education from the educational standpoint. I am sure those of you who had a background in physical education know the struggle that physical education had to go through to receive recognition. The argument was made and still is made in some circles, "Why give credit for taking physical education?" They received no high-school credit for it and it was considered some pleasant, modified form of recess. People wouldn't believe that physical education had health as one of its aims. People said it was impossible—you had to read books and for a long time physical education was ignored. It is a good example of what takes place. The reverse is accepted now. Prominent educators, Dr. Angell and Dr. McCracken feel that without emotional efficiency it is impossible to have an adequate intellectual education. It is considered ridiculous and dull and a waste of human life and money to educate a person and then find that he or she is not capable of making a normal adjustment. It is considered undesirable to take a child whose I.Q. is 140 or 150 and give the child a total education, intellectual education, and deprive him or her of their emotional education.

We find frequently in schools children who are what we would call far advanced in their intellectual education and very infantile in their emotional education. So with that again we start to realize that physical education has a great part to play in emotional education, and a great part to play in making the person a worth-while individual, who can adjust to society. We must remember that all of our education is to prepare the person to live in a normal environment and not a pathological environment.

Now, some of the aims of physical education. Those of you who had courses in physical education have heard many times various aspects of the development, the organic development, neuro-muscular development, socialization development and the emotional development. I would like to go back over those and review some of the factors which apply, particularly for those of you who work in Corrective Physical Rehabilitation.

We know that in organic development we are hoping to develop the heart, the lungs, the gastro-intestinal tract or the circulatory system, to its greatest point of efficiency and endurance. Now, when you look at it, you say, "That is not a good heart. We will set up a series of exercises which will be graduated from the simple to the more complex. The result will be the person has good organic efficiency." The fallacy in that reasoning will show itself as we go along. Actually, organic development, taken apart from the total personality development is purely an optical illusion. In other words, we must consider the individual as a distinct configuration, although for teaching we divide them into organic, neuro-muscular, social and emotional. We must remember that we are not showing the true picture unless we take the total concept. I will go on with that point later.

Take the person who has a heart disease, the person who has a lung disease, the person who has a gastro-intestinal disease—all those things resulting from an infection, or a birth injury, or of some defects in tissue at the time of birth. Those things do take place. But we have another group of entities to be aware of. Before I go into that I would like to go back over this concept of psychosomatic. I hope there are a few physicians here.

First of all, there is no problem of psychosomatic as far as the layman is concerned—medicine is at fault. People talked about the body with an increase of interest in psychiatry. Somebody found man had a mind—it was a terrific study—and they had emotions. As a result, as psychiatry went along and made progress, many became aware that somewhere along the line they had not completed their study, and so along came this term "psychosomatic," a term which, as some of the people mentioned yesterday, a lot of differentiation between mind and body does not exist, any more than physical education only aids the physical part without affecting the intellectual or the emotional. There is no such differentiation at all. We started using the term "psychosomatic."

From the point of view of the organic development, let us go back to the psychosomatic problems. We have in every hospital a large number of individuals who have physical complaints which do not show up by various tests and examinations which we are capable of conducting. The individual who complains about gastric upsets, the individual who has diarrhea, the individual who has palpitation of the heart, the individual who is short of breath, the whole group of them,

who on physical examination we cannot find any evidence of organic, pathological difficulty. There is no evidence of any defect in the tissue, no evidence of any infection; yet they have these complaints. That group of individuals are the group frequently put in the group of psychosomatic diseases. The people of that group, by the way, have been treated for years by general practitioners. The general practitioner would give the common sort of thing, "You come on Monday and I will give you a yellow pill." And also, the general practitioner would say a few kind words, "How is your mother? How is your job?" and so on. They progressed—the yellow pill did make the people feel good for a while. About a month or two later he would come back, saying, "That same old complaint is back." The doctor would give a green pill and conversation and tell him a few things. He would ask how his family was getting along, etc. The patient would make another adjustment. The general practitioner was using a form of psycho-therapy. The pill was the "crutch" the man needed. That is the group of functional diseases—patients who have illnesses which cannot be shown to exist on an organic basis. I am sure in every hospital in the VA there are patients who suffer from this type of illness and they are not on the psychiatric service. They are not on the NP service. They are on the general medical and surgical service. We in Corrective Physical Rehabilitation can offer help to those individuals. We can offer them help in the following way: By setting up a program of re-establishing new habits, of conditioning new habits, new routines for themselves.

One common factor we find in these individuals is that they are prone to sit down and regurgitate previous complaints and then swallow them, and they love to do that. Our job, therefore, is to change the pattern of those activities. In some places, in group therapy, they have spent time reviewing the pathology and the physiology of the particular organ the particular patient complains of. During the war, in some of the reconditioning centers, we had set up lectures for those patients who complained of cardiac disabilities. We reviewed with them the heart and all of its possible illnesses. We reviewed with them the heart's normal function and we found that after they had an awareness of it they were not as upset and distracted by it and were able to make a fairly normal adjustment.

We had a case of a woman who came in. The woman came into the hospital, brought in by ambulance on a stretcher. She came to the hospital to die. About two weeks before she came to the hospital, she had been to a doctor and the doctor told her she had a "leaking heart." The woman was convinced the doctor was right. Up until that time she managed the home and took care of the children and household work. Following this doctor's statement the patient started having dizzy spells and a feeling of faintness. Unable to do work she had to stop work and take a rest several times a day, and finally went to bed. An examination showed an individual who had a heart complaint, she did have an old lesion, but the heart had compensated and she was able to make a normal adjustment. In talking to the woman at the interview, one found the following things: That when the doctor told her she had a leaking heart the patient had an unusual notion. Her notion of the heart was that it was a very large vat and that at the bottom this leaking took place. She thought that blood was dripping out and in only a matter of time this vat would be depleted and she would die. That was her notion of the heart. She had no notion of how the heart functioned. We took time and reviewed with her the normal physiology of the heart and obtained pictures from books and reviewed them with her. Then we also gave her some encouragement and suggestions as to how to start working these things out. We found that the lady was able to get out of bed. She was able to get around and take part in activities, and able to leave the hospital within two months and go back to her job; and as far as I know, she is still getting along. There are misconceptions which take place and as a result of these misconceptions patients become permanent invalids.

Another point along this line, too, is the point of the patient who has a gastro-intestinal complaint, the common complaint of constipation. He starts out by using cathartics. Cathartics work at first fairly well, but they don't work well enough, so he uses a more drastic cathartic. Each time he increases the dose and adds irritation to the lower part of the bowel. It is only a matter of time when this irritation will continue to the point of making changes in the physiology and anatomy of the lower bowel. If that keeps up for a number of years, changes take place, but the changes did not start as a result of the disease. That started from a misconception of what constipation consists of. I am sure in this room if I were to ask teachers, ask how many times one should have a bowel



movement, I am quite sure you would say, "Every day." That is the way we have been trained. Physiologically this is not proven to be correct, but we believe that, so if we don't have a bowel movement we take cathartics. That sort of difficulty arises for that patient as a result of not understanding their normal functioning and they have these difficulties.

As I said before, we in Corrective Physical Rehabilitation can do work in that sphere. We do expect for you to provide an adequate physical education program, in which you give the patient the opportunity to further develop his musculature. I am sure Dr. Stafford gave you some excellent and cogent points for developing the type of exercise which is valuable to patients.

Now, in regard to neuro-muscular development, coordination and equilibrium. The integration of the nervous system and the muscular system, the voluntary muscular system, is vitally important for us. In developing their skills we must be sure that we understand something about the nervous system before we can possibly help anyone develop new coordinations.

You have seen patients who had no pathology of the nervous system, no pathology nor disease of the muscular system, yet cannot use a certain part of the body. The individual is suddenly paralyzed in one arm and is unable to move it, yet on tests and examinations we cannot find any evidence of pathology in the nervous system. Under hypnosis or sodium amytal we can have that individual move the part of the body very readily. I say here again the point to be made is that we have a group of people who have diseases which they have established in their minds and their emotions, which do not appear as a result of infection or of any type of injury. I think I have discoursed several times about the little Italian boy in the Service Command who had his hand in a position like this, (indicating,) but he had good training, so when the commanding officer came by he would salute like this, (indicating). That sort of individual was not a malingerer. He was not a liar. He was protecting himself. Our nervous systems and our emotions help us protect ourselves, protect against something which we cannot put our fingers on. Take the individual who suddenly comes up with paralysis of the leg as a result of having been exposed to shell fire and some dirt falling on his leg. Then he suddenly finds he cannot move it. Or consider the individual who goes a little further along the line and suddenly comes into the hospital saying, "I feel I have got heat on my back all the time." He looks like a strong individual, very capable and very understanding. He has a good war record and yet he is all upset. "I am burning up." If you work with the patient you find out in his history a simple thing, that in combat the thing occurred which he himself had forgotten completely, but which remained in his unconscious and changed and patterned the rest of his behavior. You learn that he was exposed to a fire burning behind him for the longest while. He stayed right there and then suddenly blacked out. He was picked up by the others and brought back to the station. He had forgotten that experience. All he felt was heat on his back. Now, one might say, "He is a liar." He is not a liar, but he is protecting himself unconsciously. He did not plan this; it was not planned. That is the way people protect themselves. We protect ourselves in many other ways. So we have also this group of individuals whom we, I believe, in Corrective Physical Rehabilitation can help. One of the ways is to provide activities for the rest of the body, provide activities and place no stress upon that affected part, ignore it, but offer general conditioning exercises for the rest of the body, and as that patient goes along you will find that he will start moving that particular part.

We must not forget that we must continue to maintain the patient's physical status as long as possible. Do not allow him to become habit burdened, nor have his disease fixed in his mind. It is wrong for us to try to stress to move that particular part, unless he is having some psycho-therapy with it. In the realm of functional treatment one must be conscious of these things.

Now, the next point of socialization, the ability for group identification, for group participation, for accepting group responsibility and for establishing adequate inter-personal relations. This goes somewhat beyond the realm of pure medicine. It goes into the field of social medicine; and it does not have anything to do with the conflict of the A.M.A. with certain groups.

There are those individuals who, as a result of an experience of one kind or another, deny the society in which they live, the individual who has, let us say, syphilis of the brain, tumors of the brain, the individuals who have as a result of a blow on the head injury to the brain tissue. They distort the normal social situations in which they live. They distort their society.

We have another group who in their socialization are unable to accept social responsibility. The usual trick that we do is that we withdraw from something which threatens us. Those of us who cannot withdraw physically, withdraw mentally and emotionally. We have the individual who becomes a hermit, the individual who says, "Society bothers me, gives me a pain in the neck," and the individual then makes an adjustment at the level at which he can accept the world. Or consider the individual who makes his retreat from reality by developing hobby interests, in painting, in reading, etc. Those are normal attempts to make adjustments.

Now, we have a schizophrenic group of individuals who show no pathology anywhere in the brain, but who cannot make a social adjustment. They run away from life. The schizophrenics particularly find it much more pleasant to live in their own fantasies, in their own day-dreams and in their own pre-occupations, than to waste time in trying to challenge and fight reality.

In the study of schizophrenia one finds a certain experience takes place and the patient withdraws. It may be the common things, such as going from high-school to college, marriage, a new job, a new member in the family, birth of a child—common factors in a post-war world. All of those things frequently are common factors in producing this functional psychosis, which is a fancy term. A simpler term would be, producing the situation in which the patient withdraws from problems he cannot accept. What can we do about that? I think there are several things we can do. Mr. Roland pointed to a very interesting study with those who have been working in similar fields.

When the patient withdraws from reality, he returns to an earlier period of his development. He becomes dependent. He needs help. Our job is to first do the sort of thing that a mother does with a child when they want the child to develop normally. With a schizophrenic patient with a mental illness of a severe type, the first thing they have to feel is that somebody believes in them and that somebody accepts them for what they are. There is where you have an opportunity in Corrective Physical Rehabilitation. If the patient comes down to your gymnasium and swimming pool, he must be made to feel that you like to have him come down, that you people are his friends, that you believe in him, and give him a chance to gradually start bringing out material which will eventually strike his interest. That is very essential. I have said it before and I will say it again, the most important thing is your attitude toward the patient. That is much more important than all of the equipment and all of the other things. You have to have the right attitude toward the patient.

Now, for the emotional development. Basically, we human beings are not always good. We are not always kind. Basically, we have inner urges and drives which society will not allow us to act out. The problem of civilization at the present time is to hold these drives in check. We human beings like to fight. We like to be aggressive. Some like to kill. Some hate more than love.

It seems we should think very carefully about the emotional needs, because that is the area in which we find the most difficulty. It is hard for us to accept. We physical educators as a result of experience have to see something tangible, something in motion; but something emotional is hard to see. Therefore, the emotions frequently are lost sight of when we are reviewing our patients. What emotion does a patient have toward this situation? That is important. What emotion do you have toward the patient? I think you have had experience with a patient coming down to your section of your hospital stating: "That individual is back again. I told the doctor I didn't want to see him again." Here is the patient who has the notion, "Those guys are here to make a living. I don't think they are interested in me. We will get along if they keep on their side and I keep on mine." You can go a little further; all of us must maintain a balance between our aggressive and our—if you want to call it that—our love drives, our hate and love drives. It is believed in psychiatric circles that the so-called normal individual—and I don't like the term—is the individual who has balance and equilibrium between his hate and love drives. When either one of these dominates the other completely, we have an individual who is maladjusted. When the individual, who is aggressive, expresses his aggressions in destructive ways we get concerned. If he breaks windows, for example, he is immediately taken care of.

We have the individual who is always ready to fight, regardless of what takes place, the individual who is always on his guard, and carries a chip on his shoulder, and if you say something about the price of eggs in China, that is enough reason to fight, the individual who is ready to go to bat.

Another thing we have to be concerned with is that this aggression may be re-channelized into socially acceptable channels. Now, most of you who have been through sports know that the game of football is a direct means of expression of aggressive drives according to rules and regulations. Once in a while some fellow forgets the rules, but if within normal limits we still allow him to take part. There are penalties set up and we may under the rules take the man out altogether until he cools down.

One of the most important things for a patient, or any individual, is the concept of himself. "What am I? What do I do? What can I do?" That is a vitally important thing, and the psychiatrists call that concept either "inferiority complex" or "superiority complex." I think those are nice terms, but again anything which is in black and white is usually wrong. There are shades and grades in between. In between most of us fit. Our concept of—ourselves—would we like to be six feet tall? Would we like to have a lot of hair? Would we like to look like Robert Taylor? Would we like to be able to sing like Bing Crosby? All the things we like to be. Are we disappointed in how far we have gone along? Those are vital things for you. Those things are part of emotional development. Those things reflect in our ability to function as normal individuals.

I am quite sure you are aware of studies which have been done to show effect of the emotions upon the heart, lungs and gastro-intestinal tract.

Another thing in emotional development is the opportunity for identification. We must have figures around us to identify with them and our identification is vitally important. Those of you who are aware of the problems of juvenile delinquency are aware of the fact that those children suffer from lack of opportunity of having adequate, positive figures to identify with. They identify with people who are always anti-social and so their sphere of development will be anti-social. It is also important for us to develop our concept as a result of identifying with figures. The hero worshipper, the importance of hero worship and how it is helpful—how can we try to incorporate that in our work? The boy who imitates the baseball star, or if a particular figure talks from the corner of his mouth he tries to do the same. The opportunity for identification, we can use that also in education in general. We should be able to do these things fairly well, to do them so we can offer an opportunity for these other individuals to adequately imitate.

Another thing is the old bromide, which needs to be reviewed: "Do as I say, but don't do as I do," which is incorrect. The individual identifies with the total person, not only by what he says, but by what he does. Some parents say, "You had better go to bed. We are going to have drinks tonight." If it is very bad for the child, why is it not bad for "Pop and Mom"? And so the child has mixed emotions about that.

We have another great problem in regard to emotions and that is the problem of guilt feelings. All of us have a certain amount of guilt about certain things. We think we made a mistake in our last investment; or we made a mistake in taking the job we have; or we have made a mistake in the car we bought; but nevertheless even with those mistakes there is a certain amount of guilt feeling. The individual who is unable to work through these guilt feelings allows them to accumulate, and then all these materials become part of his permanent adjustment. He says, "What a dumbbell I am, what an undesirable creature"; and the next thing he knows he has depressed feelings and the next thing he wants to get rid of himself. Then, all the way through there is again the feeling of guilt. He says, "I have done something wrong. There is no possible way, no possibility of expiation of the guilt. I must die." The patient goes around and sometimes you may wonder why you are spending time preventing him from killing himself. You realize this patient is sick, because he is unable to accept the normal amount of guilt feelings. We are not perfect, of course not, but somehow we set up false standards which are so demanding we cannot meet them, and which is nonsense. In other words, it is a heavy load, since we expect more of ourselves than we are capable of doing. When we make mistakes we think it is not worth while going on. Those are common emotional problems. How can we handle these in Corrective Physical Rehabilitation? Very easily, and very frequently they are handled.

First of all, in teaching a new skill, or taking the patient out for a walk, or supervising patients watching a baseball game, you have an opportunity to be aware of the patients' emotions. Don't see the patient's mind, that tells you nothing. "The patient seems to be distracted, and seems to be preoccupied. He was cocking his head to one side and listening," or "the patient was pretty much



concerned, he was biting his nails," and so on. Make observations of the patient's emotional reactions to a situation. Those are vitally important. Of course, in physical education there is an opportunity for complete release of emotions. Those things are vitally important.

Dr. Sargent, from England, one of the prominent English psychiatrists, was in Topeka and gave a paper on his use of ether in treatment. Ether or sodium amylal in having the patient relive an old situation, and in trying to bring back the emotional situations. Take an individual, let us say, who had combat experience in which he was in a shell hole for a day and a half, covered part time with dirt. He is picked up and brought to a hospital. He has no recollection of the experience, a total forgetting of that whole period. He is disturbed and he is away from everyone. He is not able to adjust to anything. Dr. Sargent believes that there are techniques developed by Freud originally, of bringing back these traumatic or painful situations, reliving them and giving the patient a feeling of relaxation. Dr. Sargent found sodium amylal was not enough and he added ether. The first stage of ether is very exciting. The further stage is complete relaxation. So he uses ether only in the excited stage. It brought the situation back, the patient was again in the shell hole. The patient reacted and acted the whole thing out. Then he suddenly collapsed altogether and relaxed altogether, complete relaxation. Then the patient wakes up from that relaxed condition and he frequently states, "I feel great. I notice this pain is gone. I am not worried," and so on. That is only a certain type of case. Remember what I said, it is a type of case in which an experience which was very painful could be pointed out and then relived. There again the important point is living through the emotional part of it, the emotional experience, and then complete relaxation, to help the individual get over the illness. Dr. Sargent said as a start they send them to their rehabilitation people. They use calisthenic drills and they use formal exercises to recondition the individual. They start with simple exercises, start conditioning the individual, bringing them back to the fact that they belong to the British Army. So we have there again the importance of the emotional development.

Now, I have talked about the organic. I have talked about the neuro-muscular, socialization and emotional. I would like to go on and give a tentative outline of a general program of helping these individuals. I will try to explain that. I have set it up this way: First, I believe the individual who comes to the hospital for treatment should start out with his basic skills. By that I mean, simple running, walking, jumping, climbing, all those fundamental movements. If there is any affected part, the physio-therapist will take the responsibility of taking care of that part, prescribed by the doctor. I think the necessary exercise for that person, all that can be done for the total tuning up of the individual, should be the responsibility of Corrective Physical Rehabilitation. Don't misunderstand. If the patient is getting along pretty well, don't stress that part and go on to the next step. Don't become ritualistic, that you have ten days for this and ten days for that. It requires a certain amount of intelligence on the part of the person prescribing the exercise.

Now, I am quite sure some people will say, "How about something on actual corrective exercises? They are all within the patient's skills. The patient's skills include fundamental exercises to help the individual re-adjust. In the neuro-muscular sphere the next ones would be the activities, divided into those with no bodily contact and those with bodily contact. I mean fundamental skills like tennis, where there is no actual contact between the patients, or badminton, or several of the other games, handball, all common illustrations. Now, those with bodily contact, such as wrestling and boxing. Now, why do I differentiate between bodily contact and no bodily contact? First of all, we know that in treating individuals bodily contact sometimes offers a threat to some people. It is very difficult for some people to accept the idea of being pushed or struck or having a bloody nose, or suddenly having somebody twist their arm, without getting terrifically upset. If you are handling patients, particularly neurotic patients, as well as some psychotics, it is more desirable to keep the activity with no bodily contact at first. Otherwise, you will have difficulty because he is in somebody's way. We want you to understand why we are talking about no bodily contact and bodily contact, in what we call group activities. I am talking about teaching, and not competitive activities. You must teach them to play in groups. You have there the games of low organization and the games of high organization. Also subdivide that into bodily contact and no bodily contact. Volley ball is a very simple illustration, and basket-ball. They require the highest skill and the highest team organization. You are teaching them skills. Only

remember what I am saying, you are not setting up competition, you are teaching skills. We advocate and we teach the skills all the way through group games and sports, but we do not encourage competitive sport. That goes into Special Services. We do try a patient in a game or two to see if he can stand the strain, uniform strain, before we send him into the actual team plays. It is not unusual for a ball player or any athlete to look beautiful, but when he meets competition he goes to pieces. The fellow looks good swinging at a ball, but in the game he misses out. He is unable to hit. While the crowd cheers, he drops the ball. Does competition offer a threat? Does that revive more or less the things that caused him to draw away? If it does, he is not ready for it. I am trying to give you the scientific point of view, the development we think will be helpful, the problem of your approach to the patient, what you say to the patient, what you do with the patient and how you react. That is most important.

Now, to go on to our next step. In order for us to do Corrective Physical Rehabilitation and do it right, it seems to me we must understand basically the individual's own ego psychology. Without that it is impossible to accomplish very much.

I would like to ask Dr. Ewerhardt a question in regard to his postural training. How many times do the people themselves come to the doctor for improvement of posture? I think Dr. Stafford could answer that, too, and Dr. Wright. I think it is rather infrequent. It is usually the father and mother. The mother gets the idea, "Billy is not going to be like his father," and so on. Or the girl thinks she has too much avoirdupois, too much tissue and the first thing she is going to have is posture training. She found a boy friend who shows interest and she is going to get in shape. Many times the actual basic urge is not there to help the individual overcome his postural defects. Without that needed urge you have difficulty.

Among foreign populations a child comes to school and then goes home and speaks the native language of the parents, and he does not apply what he learns in school. The same thing applies to Corrective Exercise. Unless it is applied all along you miss out and you do not improve your posture. I recall about fifteen years ago somebody reminded a child who was a musician and considered a prodigy that he should stand up straight, because he was going to play in public, and the child was not interested one bit. The mother could not understand how he could be a musician without good posture. Instead of talking to the child intelligently, she said, "You are going to see the doctor. We are going to do these exercises instead of practice." If you want to stop a child from having a good posture, that is the way to do it. He would sneak his practice when she was not around. I know the family fairly well. The child would delight, when he was playing the violin, in being all crouched up. He was having fun. Without an understanding of the basic psychology, I don't believe we can do a good job in Corrective Physical Rehabilitation. It does not only apply to NP patients, but individuals in general, the patient who has an amputation, the patient who has a functional complaint, the patient who has one illness or another. What does this illness represent to the patient? Unless we understood that part of it, we are not going to be able to help. We must not forget that every patient must have an opportunity to express himself, and we should be able to give him a chance.

I think those of you who work with paraplegias felt very unhappy—they are not getting well as rapidly as you thought they would. You have taken the best exercises, you have used your intelligence to the utmost degree, and still don't have success. You might go back a little bit and review the history and look into the matter and find out what the patient thinks. What does that mean to him? In other words, suppose the individual prior to his illness was an athlete and he had great pride in his body. Now first, he cannot use his legs. What does it mean? It means he must be a cripple and he has the attitude of a cripple. Or consider the individual who suddenly becomes aware of the fact, "I am going to beat this." That individual will get help. What I am trying to say is that the attitude the patient has towards his illness is one of the key notes in any treatment we offer. If the illness is more pleasant and more desirable than getting well, then the illness will persist. If the illness offers more security, the illness will continue. The patient must have an awareness that he is going to get well. I think we must not forget that frequently we find patients understanding their illness and having difficulty accepting it.

We have another great problem, the problem of the individual who has a visual or hearing defect. Those people feel shut in from the rest of the world. It is not uncommon to find an individual with a hearing defect who develops

paranoid ideas that people talk about him. They do talk about him, but he does not hear them and he thinks the comments made are unkind. Again, the personality is swayed by the particular crippling defect. A study of the patient's ego psychology is absolutely essential for us before we can do a good adequate job of Corrective Physical Rehabilitation. In other words, as I said before, the total configuration of the person, his ability, his lack of ability, all those things must be taken into consideration. The important thing to consider is the individual and what he is as a person, what personality he has, what difficulties he is having, and so on. First of all, we should be able to re-develop old skills and in other cases develop new skills. For some people we have to develop old hobbies, or rather re-develop old hobbies, and for some develop new hobbies. One of the most important jobs is to make sure the things we offer the people in the hospital have carry-over value in the community. It would be very undesirable for us to offer patients activities not available in his own community. We should offer a program of activities which are usable in the community, so the individual can enjoy these activities after he leaves the hospital. We must not forget that our program will never succeed unless we make sure that our program is tuned to the opportunities available in the community. We must give the patient the feeling he can get well. We will help him to do something to help himself. We will offer him things to carry over.

We can parallel this in the problem in athletics. Our goal should be perpetuation of intra-mural sports for the largest number, rather than sports which will make a few professional or semi-professional players. As our goal we should offer sports that can be played after the person leaves school. We should offer activities which have value, to be played until the man or woman reaches fifty or sixty. We should not spend our time developing professional athletes. That is a special field. If I had my choice, I would recommend to the colleges that they have a course for professional athletes. That would be the professional team of the school; but the rest of it should be for the largest number. If our colleges do nothing else for our men, they should give some opportunity for activity when they leave school.

Now, in closing I would like to say that I am convinced that the C.P.R. program is not a fad. It is not a thing which will pass and die out. It is a thing which is going to grow. I know Dr. Stafford suffered for years in trying to get corrective physical education established in the schools. He wrote one of the best textbooks and talked about it and gave lectures. Schools had never incorporated this thing in their total program. I feel Corrective Physical Rehabilitation is beyond that. We have learned by the experiences of Dr. Rathbone, Dr. Stafford and Dr. Davis. This is a very essential part of handling individuals: That Corrective Physical Rehabilitation will not cure everyone. Corrective Physical Rehabilitation itself cannot cure a single person; but Corrective Physical Rehabilitation as part of the total hospital program, part of the total team, will offer many more opportunities than have ever been offered before to veterans or civilians.

---

## "CORRECTIVE PHYSICAL REHABILITATION IN RELATION TO OTHER THERAPY"

By MR. RUSSELL DEAN

Executive Officer, Medical Rehabilitation, Veterans Administration  
Washington, D. C.

It is a pleasure to be here this morning for this first annual convention of the Association for Physical and Mental Rehabilitation. I bring the greetings of Dr. Covalt. He is on his way to Atlantic City and asked me to explain why he is not here today. As you know, The American Medical Association convention opens there on Monday of next week. The Medical Rehabilitation Service has a rather large and we hope impressive and successful exhibit, including a number of patients themselves, in the A.M.A. exhibit. It was necessary for Dr. Covalt to make sure that the arrangements were made, and that the exhibit should open up on Monday.

A glance at the program has impressed me with the diversity and the professional level of the topics and speakers you have chosen for this meeting. I am sure that you will profit from the new professional methods which will be discussed here and from the new sense of enthusiasm and determination which many of these speakers will give you. It is my hope that I will be able to give you rather briefly a picture of the Medical Rehabilitation Service in general—and the Corrective Physical Rehabilitation Program in particular—as we have seen it developed from Washington.

First, I think you should know your co-workers in Corrective Physical Rehabilitation and where they came from. With the end of World War II, it was obvious that such special corrective and remedial measures were very valuable in the treatment of various kinds of disabilities. It followed rather naturally that Dr. Hawley should wish to incorporate into his medical service every phase of treatment which would help the thousands of disabled veterans in need of definite and rehabilitative care. When the Corrective Physical Rehabilitation group was initiated, much time and conscientious effort were given to hand picking, from among this highly specialized group, the finest calibre of personnel that could be found. The personnel rosters in Reconditioning and Convalescent Training of the Office of the Surgeon General and of the Air Surgeon, as well as those of the bureau of Medicine of the Navy Department, were carefully examined. In many instances, personal information was obtained from the doctors under whom the men had served. This careful screening was time well spent, for it is the opinion of Dr. Covalt and myself that we now have, in the Corrective Physical Rehabilitation Program, the "cream of the crop" of the military rehabilitation organizations. This opinion is substantiated daily when we see increasing evidence of the valuable treatment which you now are affording patients in Veterans hospitals. In fact, the establishment of this association and the present meeting here in Chicago simply lends additional weight to our belief that the Corrective Physical Rehabilitation group is well on its way toward an important place in the total Medical Rehabilitation effort.

As part of the medical service, you probably are interested in the large-scale development of the Department of Medicine and Surgery. At the present time, over 102,000 beds are provided in Veterans Administration hospitals, with more than 91,000 patients under care. In addition to these facilities operated by the VA, 14,000 patients are being cared for in non-Veterans hospitals, through contract arrangements. The present total of 126 Veterans hospitals will be gradually increased during the next four-year period, as the long-range VA construction program adds new hospitals. With the completion of the program, the VA is expected to operate approximately 200 hospitals. I mention these figures because I feel you should understand the immensity of the problems involved in providing medical care. As part of that medical team, it will be up to you to show vision in planning your own phase of the work. Such an increase in hospital beds indicates likewise that the need for medical care for veterans will continue to increase regularly for many years. If the experiences between World War I and World War II are any criteria, we must expect that the patient load

\*Presented at the First Scientific and Clinical Session of the Association for Physical and Mental Rehabilitation, June 5-7, Chicago, Illinois.

will become greater and greater; in fact, at the present time, more veterans are under medical care by the VA than at any time in the history of the country.

We know, for instance, that the incidence of injuries is much greater in a civilian group than it is among the military during time of war. Since our veterans now represent a large segment of our entire civilian population, we will do well to be guided in our thinking by national figures on the incidence of disease. For example, a glance at such figures reveals that, while our armed forces were suffering 11,000 casualties on the Normandy Beach Head in the ten days following D-Day, more than twice that number of Americans were seriously injured in traffic accidents at home. During the war, there were 17,000 amputations among the military personnel. During the same period, 120,000 major amputations were performed on civilians at home. These facts should help us to remember the tremendous responsibility which all of us have undertaken.

Those of you who are on duty in General Medical and Surgical hospitals may have wondered about the dearth of VA publications dealing with the rehabilitation of specific types of injuries and diseases. Certainly you have to face a greater variety of disabilities and much more complex problems in adapting your phase of treatment to the needs of a host of injuries and diseases. You may be interested in knowing that a series of technical bulletins is being developed at this time covering a wide range of major illnesses and injuries. They are being prepared under the direction of the Professional Services; they will include the most up-to-date definitive medical measures and will include sections specifically devoted to the Medical Rehabilitation phase. I believe that you will find these technical bulletins to be highly valuable, for they will embrace, in one publication, a comprehensive picture of the entire treatment program for the various disabilities.

Much has been said of the necessity for close cooperation within the Medical Rehabilitation Service. Certainly we may not hope to achieve an efficient service unless all of the members are working closely with each other. I should like to suggest that each of you make a special effort to learn as much as you possibly can of the actual operation of the other departments in Medical Rehabilitation. Probably the simplest and most effectual way to do this is to spend a certain amount of time regularly in the other departments. If you are actually familiar with the work being done in Educational Retraining, Physical Therapy, Occupational Therapy and Manual Arts Therapy, your task of adapting corrective procedures to individual patients will be greatly simplified. Such a thorough knowledge of the whole service will be of a distinct advantage in your relationships with the doctors. Obviously, the professional development of Corrective Physical Rehabilitation requires constantly greater coordination with the physicians. In many instances, this calls for a real selling job on your part—not a “flashy” display on Monday, but a constant 7-day-a-week demonstration of how the Medical Rehabilitation Service can help the doctors in their treatment of the patients. It is not enough that your services be available; for the next several months you should make special efforts to better organize your service, to improve your relationships with doctors and other staff members, and to see that every patient who is medically ready has an opportunity to benefit from the corrective program.

A number of things have occurred, during the last six months, which have caused some dismay on the part of many of our folks in the Medical Rehabilitation Service. Budgetary problems have placed temporary limitations on travel funds, have restricted appointments and promotions, and have otherwise served to engender a feeling of insecurity on the part of many. I should like you to know the picture as we see it in Washington. A number of such limitations have been placed in effect. In some respects, they have temporarily hampered the development of our service at a time when it was just moving into the operational phase. However, I wish to emphasize that at no time has there been any indication that the Bureau of the Budget, Congress or anyone else, wishes to lower the present standard of medical care for veterans as established by General Bradley and Dr. Hawley. Such a vast revamping of the Federal structure as is now taking place, following the great expansion during World War II, is bound to produce repercussions which affect our work intentionally or otherwise—but I wish to point out that neither the Department of Medicine and Surgery nor the Medical Rehabilitation Service have been confronted with any problems which are not generally faced by the entire Federal Government. The Administrator and the Chief Medical Director have reiterated their firm contention that the present standards of medical care for veterans will not be lowered



during their tenure of office. There is reason to believe that funds will be available to maintain veterans' medical care at substantially the same level. It is my personal conviction that the only major problem which we face now is to so organize and operate our service that we are making a major contribution to the care and recovery of our patients. In other words, we have here an answer to a question which is often asked: "What's the future for me as an individual and for the whole field of Medical Rehabilitation?" The answer to that question lies directly in the laps of each of us. We may very well ask ourselves how successful we will be as individuals and as an organization; how much insight will we have into the real needs of the patients we serve; how much foresight in our planning! These things will determine the real, long-range success of Corrective Physical Rehabilitation and of the whole Medical Rehabilitation Service. There is no way in which any one of us can escape our responsibility in achieving this success. I think we should all bear in mind a fact which Dr. Covalt has stressed continually: There is no place in the Medical Rehabilitation Service for "boon doggling." We have four primary responsibilities: (1) To help get patients out of the hospitals faster; (2) To get them out in such good condition that they will stay out; (3) To offer the seriously disabled an opportunity to be discharged and to carry on a reasonably normal life; (4) To help ease the load on our doctors.

This convention should bear fruit in a better understanding of the place of Corrective Physical Rehabilitation in our Veterans hospitals. It is my hope that you will continue to seek the guidance of the foremost doctors and other specialists, for through this organization you will serve as the guiding influence to a very large and valuable group within the Medical Rehabilitation Service. For this reason, we are vitally interested in your success. I feel sure that we may count on you to carry out a program in our hospitals which will give new hope and opportunity to thousands of veterans and which will be a credit to the entire Department of Medicine and Surgery. For Dr. Covalt, myself, and the staff in Central Office, I wish everyone of you the very best of success and a Corrective Physical Rehabilitation Program in your hospital which will help make good Dr. Hawley's promise of a "medical service second to none."

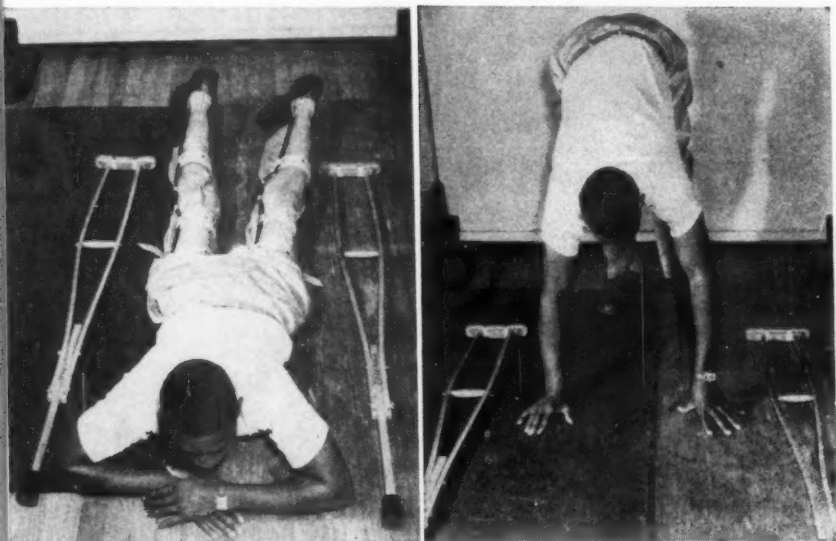
---

## A METHOD OF MOVING FROM A PRONE POSITION TO STANDING POSITION USING CRUTCHES ONLY

By LOUIS M. FRAZIER, JR.

Training Assistant, Corrective Therapy, VAMTG, Kennedy Hospital,  
Memphis, Tennessee

The Corrective Therapists at Veterans Administration Medical Teaching Group, Kennedy Hospital, Memphis, Tennessee, have developed a technique of moving from the prone position to standing position with only the aid of crutches. Our Staff consider this method superior to others they have tried in teaching the activity to patients with spinal cord injuries. The following instructions should be followed until the patient is thoroughly familiar with the proper sequence of movements, before he attempts the activity:



1. The patient lies in prone position with his crutches alongside his body. The under-arm rests are placed midway between his foot and knee. He is ready to move to an erect position.

2. Keeping his feet eight inches or more apart and in a steady position, he now walks his hands backward and at the same time pushes his body up onto all fours.



3. He grasps his right crutch by laying his hand down on the grip. The importance of this should be stressed, since by taking the crutch in this manner he never has to change his grip.



4. He then picks the crutch from the floor and turns the under-arm rest down and away from his body until it is in position to put on the floor again to support his weight.



5. He has completed the turn and the crutch is on the floor supporting his weight. Note position of the crutch on the shoulder and the straight position of the right arm. This position increases the stability of the patient, and the possibility of the crutch slipping from the shoulder or moving around is lessened.



6. He gets his balance and places his left hand on the left crutch. As in the case of the right hand, he grasps the hand grip in a manner making it unnecessary to change his grip.

7.  
stra  
dire  
has  
wei  
He  
ing  
of  
cru

9.  
bo



7. He takes the left crutch and lifts it straight up, placing the under-arm rest directly under his left axilla. He now has both crutches supporting his weight. The feet are still kept apart. He walks the crutches backwards, raising his body higher and getting enough of his body weight on his feet and left crutch to gain his balance.



8. He lifts the right crutch and turns the under-arm rest toward his body until it is resting under his right axilla without changing his grip.



9. He has completed the turn and has both crutches under his arm.



10. He walks the crutches backward toward his feet, raising himself into an erect position.

Once the correct sequence of movements is learned and the patient is able to correctly shift his weight, he can successfully use this method. It is very important for the paraplegic patient who can ambulate unattended to learn a method of moving from the floor to an erect position should he lose his balance and fall. The method described in this paper is practical and has been learned by patients with injuries ranging from high dorsal levels to low lumbar levels.

# REPORT ON VETERANS ADMINISTRATION COURSE OF INSTRUCTION IN CORRECTIVE PHYSICAL REHABILITATION

By FRANCIS G. LUOMA

Chief, Corrective Physical Rehabilitation, Coral Gables, Florida

"Let's all hurry back after chow, we've got a lot of work to cover this afternoon." These words uttered by the energetic Chief, Corrective Physical Rehabilitation at VAH, Hines, Illinois, Carl Purcell, were by-lines for the entire course. Mr. Purcell was in evidence everywhere, arranging for quarters and linen, tracking down lecturers, coordinating exercise clinics and the many, many minor details incidental to any well-organized instruction course.

After a friendly welcome by K. A. Carroll, M.D., Manager of VAH, Hines, Illinois, the course got under way.

With well over 25 years of experience working with N.P. patients, John E. Davis, Sc. D. Chief, CPR, Central Office, Washington, D. C., was well qualified to discuss the problems of C.P.R. work with N.P. patients.

He put emphasis on the fact that the symptoms are just as objective as those in the orthopedic ward "Activities are basic forms of expressing anxiety release," Dr. Davis said. "The ability to interest patients in constructive reality should keynote all C.P.R. Therapy." There are in many cases inadequacy of emotional response, inaccessibility, ambivalence and intellectual disturbances. Play is a good starting place. He explained that C.P.R. is a working arm of the physician. It is a medical instrument; therefore it works for the doctor and at the doctor's direction. Its activities are INDIVIDUALLY PRESCRIBED AND INDIVIDUALLY ADMINISTERED.

The Association for Physical and Mental Rehabilitation was well represented by President Jack E. Jones, Executive Officer for Medical Rehabilitation, Branch Office No. 5, Atlanta, Georgia, Secretary Carl Purcell and Director, Publications Research Paul Roland, Danville, Illinois, who gave a paper on his work with catatonics. Mr. Jones reported on the progress of the Association, standards for admission and future plans.

"Time—distance—and elevation!" These three words were stressed by George G. Deaver, M. D., Physician in Charge of Rehabilitation and Physical Medicine, N.Y.U. Medical College and Bellview Hospital, New York, N. Y. He stated that there is a great need for research in Rehabilitation using these elements.

Another bit of wisdom from Dr. Deaver is his "formula for Rehabilitation, namely—the patient should be able to: (1) Walk and travel; (2) Use his hands; (3) Take care of his daily needs.

Direction and guidance during the entire course was provided by Louis B. Newman, M.D., Chief, Physical Medicine Rehabilitation, VAH, Hines, Illinois. His introductory lecture on "Objectives of Exercise" set the tempo for the entire course. He stressed that the exercise program should have Medical Control, and that the dominating characteristic should be to achieve maximum function. Dr. Newman's series of lectures on Polio myelitis were held in the hospital theatre so that the physiotherapists, occupational therapists and other professional groups as well as the C.P.R. class might be enlightened. He also presented a paper on the back-grounds of backache in which he emphasized the great variety of courses. The various treatments are: (1) Restoration of musculature which controls and supports spine; (2) Relief of pain, through heat (compresses, tubs, lamps); (3) Postural training; (4) Massage; (5) Stretching of erector spinae, hamstrings and shortened abdominals and tensor facia lata; (6) Plaster or splint; (7) Injection into vein; (8) Cut facia; (9) Operation; (10) Fusion of articulation.

Another member of the Hines Medical Staff who contributed to the course was Bradley Carr, M.D., Resident Orthopedic Surgery VAH, Hines, Illinois. He contributed many valuable points on amputees and prosthesis. This was followed by an inspiring panel discussion by Tom Zwerlein, Chief, C.P.R., Jefferson Barracks, Mo., Arnold Caldwell, Chief, C.P.R., VAH, Montgomery, Ala. (Mr. Caldwell is an amputee himself, and had much valuable advice to contribute to the group), and Mr. Wm. Zillmer, Chief, C.P.R., Fort Benjamin Harrison, Ind., as well as Doctors Carr and Newman. In bandaging thigh amputees, watch out for: (1) fat rings, (2) bulb shape, (3) pear shape, (4) rings.

Bandage to toughen, prevent contractures and outward rotation at hip joint.



These are a few points brought out by the panel group. It was further explained that a good procedure to follow in A.K. amputations is as follows: (1) put stump sock on; (2) explain mechanics of limb; (3) stand leaning against table; (4) put prosthesis slightly behind other leg, then work stump in. The leg will probably be a little too long (check ischial tuberosity to see how far thigh is in bucket); (5) stand between parallel bars. Various balancing exercises may be done between the bars. It was further suggested that a "check out" test be given patient before he is discharged from hospital.

Ormond Julian, M.D., Consultant, Neurovascular Surgery, VAH, Hines, Illinois, Joseph Kastrubala, M. D., Consultant, Plastic Surgery, Harold Laun, M. D., Resident Neurology, and Davis M. Porte, M. D., gave the C.P.R. men insight into the pathology as well as other medical aspects so necessary to the entire picture of Rehabilitation.

No discussion of the problems of the seriously disabled (paraplegias, hemiplegias, spastics, etc.) would be complete without the presence of Kjell Peterson, Consultant for C.P.R., V.A. Central Office, Washington, D. C. Mr. Peterson, who was responsible for VA Pamphlet 10-10-1946, "What's My Score?", which is the bible for C.P.R. men working with patients who have spinal cord injuries, stayed in the barracks with the group. It was here that a wealth of information through questions and discussions with Mr. Peterson, was gathered on a variety of problems. It was brought out that the use of "What's My Score" as a standard procedure would make it possible for any instructor, at glance to know how far along the patient was in his ambulation and self-care program.

An extremely interesting program of swimming for patients with spinal cord injuries as well as neurological cases was demonstrated by James Carnahan, Director, FAWSAP Service, Chicago Red Cross Chapter. He uses female ARC Instructors, one for each patient. The instructors teach the patients the various water skills listed below: (1) fin on back, (2) scull on back, (3) breast-stroke on back, (4) elementary back stroke, (5) paddle four widths with inner-tube, (6) five widths any stroke, (7) surface dive, swim width under water, (8) bobbing, (9) five pull-ups from bar hanging over water, (10) walk between parallel bars in water, (11) stay afloat five minutes, (12) walk four times length of parallel bars, (13) swim length.

Just as the mid-course lull was setting in an outstanding leader and author in the field of reconditioning and rehabilitation gave added impetus to the course, George T. Stafford, Ph.D., Consultant, C.P.R., VA Central Office, Washington, D. C. He stressed the importance of knowing pathology. A standard set of exercises for acceptance by medical profession. He suggested the following: (1) upper back and shoulders, (2) pillow under knees—exercise quadriceps and feet, (3) shoulder blade squeezer, (4) abdominal—curl and twist, (5) bridge raiser, (6) hip shrugger, (7) lung conditioner.

In a lecture on methods of teaching, Dr. Stafford put special stress on convincing M.D.'s "that C.P.R. work will augment, supplement, but not supplant that of the M.D." "Reliability, an understanding attitude and careful preparation," Dr. Stafford said, "are essentials to an adequate program."

From VAH, Minneapolis, Minn., and in the absence of C. Nelson, Chief, C.P.R., "Chronic Neurological Conditions" were adequately covered by Harry Dando. Mr. Dando stated that evaluation of the patient was accomplished by the physician, Social Service, P.T., O.T., and C.P.R. before starting "Rehabilitation" program. At the first Medical Rehabilitation Board Meeting a tentative program of rehabilitation is worked out with the Chief Neurologist, a goal set (not inflexible) and the Rehabilitation team goes to work. The pathology in Hemiplegias was covered in an excellent manner by Harold L. Lawn, M.D., Resident, Neurology, VAH, Hines, Ill.

A report by Leo W. Betzelberger, Chief, C.P.R., Indianapolis, Ind., indicated that the C.P.R. work with surgical patients (appendectomies and herniorrhaphies) seemed to cut down the incident of post-operative headaches.

A wealth of knee surgery cases makes the contributions of Earl B. Raymer, Chief, C.P.R., VAH, Cleveland, Ohio, worthy of note. Enclosed in his report is a chart of "suggested normal exercise management for knee surgery cases."

"Raise your right arm, now drop it, raise it again. Let it sink into the mat, once more, relax." And thirty men were the picture of relaxation as the soothing words were spoken by V. Bryson, Chief, Physical Therapist, VAH, Hines, Ill. The lecture and practical application of "Progressive Relaxation" was well presented and well received. "Let the chair hold you," she said, "rather than you

hold the chair." To eliminate disorders while reading, hold book easily. Don't be impatient. When listening, use only brain and ears. While talking, omit armless gestures—"and, in bearing pain," she said, "don't brace up for it." Remember that postponement allows tension to accumulate.

And then the harness shop moved in! No, it was Mr. D. Strelnick, Executive Officer, Physical Medicine Rehabilitation, VAH, Marion, Illinois, with enough gadgets to keep everybody busy. He spoke on "Exercise for Fractures and Joint Injuries."

It was quite obvious that he is an apostle of Dr. Deaver's Psychology of Americans. "Something in the hand—hit something."

Mr. Strelnick reiterated the important statement that "good analysis depends on knowledge of functionally anatomy." He also stated that medical rehabilitation is a salvaging process. The work in Minneapolis bears this out.

"Now, I don't profess to know anything about exercise for cardiacs" were the opening words of F. E. Huskey, Chief, C.P.R. from Columbia, S. C. Then in simple language he explained a program in operation that appealed to the C.P.R. men so much that he received a tremendous ovation after his final statements.

This course was undoubtedly one of the outstanding contributions to C.P.R. work. Every student was keenly interested and contributed during the many seminars which carried on in the barracks far into the night. Many thanks are due to all who attended.

## THE PRECISION WALKER FOR GAIT TRAINING

By Louis F. Mantovano, Chief, Corrective Therapy, VAH,  
Manhattan Beach, Brooklyn 29, N. Y.

On April 23, 1947, Mr. Kenneth Grimes, 27-year-old Negro male, was admitted to the Corrective Physical Rehabilitation Clinic with a diagnosis of Cerebellar Syndrome due to a vehicle accident, with a resulting hemorrhage. His disability was Ataxia, and he was recommended by the Chief of Physical Medicine to have general conditioning and gait training.

The initial examination of this patient disclosed the following findings:

1. Extremely nervous hands.
2. Tremors of the upper extremities.
3. Shaking when attempting to pick up an object.
4. Unsteady balance.
5. Little amount of voluntary control.
6. No control of joints.
7. Lack of coordinating movements.
8. Extreme ataxic gait.

This patient, when walking behind his wheelchair, would sway from one wall to the other, with absolutely no control of his steps or his chair. On attempting unassisted ambulation, it was observed that the patient walked very unsteadily, tripping over his own feet, losing control of his balance, and his arms waving wildly in mid-air to gain some semblance of balance. There was no limitation of motion indicated by a joint test and a muscle test indicated good tonus throughout his entire system.

This patient was immediately put on a rigid routine of coordinating exercises for his lower and upper extremities. He was given extensive work on the rowing machine to coordinate his leg and arm movements, alternating with just moving his legs on the machine for a few minutes, then using both his arms and legs. He was given a block pattern on the floor to follow, then over flat weights spaced at intervals on the floor we attempted controlled walking, always, of course, with direct supervision. The stall bars and mats were utilized to strengthen his abdominals, hamstrings and back muscles. A shoulder wheel was used for easier rhythmical movement of the arms. These continued up until June 20, 1947, when a new device was instituted to assist the patient. It was the Precision Walker for Gait Training, described as follows: A wooden frame, 30' long by 2' wide by 4" high. This frame was placed on the floor as a guide for straight, direct walking. In both side walls of this frame were holes drilled  $\frac{1}{4}$ " in diameter, placed 2" apart and 1" from the top along the entire length of the frame. This drilling was duplicated directly underneath the first line of holes, and again under the second line, so that the finished product was a wooden frame with three lengths of drilled holes 2" apart and each lying 1" below the above line of holes. See attached diagram for detailed drawing and specifications. There does not have to be any set length for the frame, just so long as it conforms to your available space. The width of the frame is arbitrary, but should be at least 2' wide to compensate for wide gait or a circumductory walk. Into these  $\frac{1}{4}$ " holes are inserted  $\frac{1}{4}$ " wood doweling, at any interval or height desired. Therefore, it can be readily seen that any sort of stride or pace can be set up by the therapist to conform to distance and time. To substantiate the usefulness of this device in the Corrective Clinic, let us present some facts as to the progress made by the patient being discussed.

This patient was weighed, length of lower extremities determined, and height recorded. Then we determined the average stride taken by an individual closest to his physical makeup by a series of tests on 5 individuals. The doweling was set on the lower row at half the distance of the average gait. It was necessary to teach the patient control in his movements of his lower extremities. Then an average walking time was established for the complete distance of the frame. This was established at 11.7 seconds. The following are the dates and a record of the performance of this patient:

# AVERAGE—11.7 Seconds

(The figures next to time denote missteps, which means stepping on a dowel)

## JUNE 23, 1947 — SHORT GAIT

- |                               |                          |
|-------------------------------|--------------------------|
| 1. 1 minute, 27.2 seconds (5) | 3. 1 minute, 2.1 seconds |
| 2. 1 minute, 38.5 seconds (5) | 4. 1 minute, 2.9 seconds |

## JUNE 24, 1947 — SHORT GAIT

- |                 |                     |
|-----------------|---------------------|
| 1. 51.6 seconds | 4. 36.6 seconds (1) |
| 2. 52.5 seconds | 5. 41.8 seconds     |
| 3. 39.8 seconds |                     |

## JUNE 25, 1947 — GENERAL EXERCISES IN CLINIC

### JUNE 26, 1947 — SHORT GAIT

- |                 |                     |
|-----------------|---------------------|
| 1. 29.7 seconds | 4. 19.2 seconds     |
| 2. 24.6 seconds | 5. 16.9 seconds (2) |
| 3. 24.9 seconds |                     |

### JUNE 27, 1947 — SHORT GAIT

- |                 |                     |
|-----------------|---------------------|
| 1. 21.7 seconds | 6. 23.0 seconds     |
| 2. 20.6 seconds | 7. 24.6 seconds     |
| 3. 29.4 seconds | 8. 27.0 seconds (1) |
| 4. 24.9 seconds | 9. 25.3 seconds (1) |
| 5. 27.2 seconds | 10. 28.1 seconds    |

### JUNE 30, 1947 — SHORT GAIT

- |                     |                      |
|---------------------|----------------------|
| 1. 19.7 seconds     | 6. 15.5 seconds      |
| 2. 18.0 seconds     | 7. 13.6 seconds      |
| 3. 18.6 seconds (1) | 8. 13.0 seconds      |
| 4. 14.6 seconds     | 9. 14.7 seconds (1)  |
| 5. 13.5 seconds     | 10. 15.2 seconds (2) |

### JULY 1, 1947 — SHORT GAIT

- |                     |                      |
|---------------------|----------------------|
| 1. 18.7 seconds (1) | 6. 17.2 seconds (1)  |
| 2. 17.5 seconds     | 7. 14.9 seconds      |
| 3. 16.9 seconds     | 8. 13.5 seconds      |
| 4. 16.2 seconds     | 9. 13.4 seconds      |
| 5. 16.5 seconds (3) | 10. 14.2 seconds (1) |

### JULY 2, 1947 — SHORT GAIT

- |                 |                     |         |
|-----------------|---------------------|---------|
| 1. 16.4 seconds | 6. 11.7 seconds     | AVERAGE |
| 2. 13.7 seconds | 7. 11.7 seconds (3) |         |
| 3. 12.1 seconds | 8. 12.0 seconds     |         |
| 4. 13.2 seconds | 9. 11.6 seconds     |         |
| 5. 12.2 seconds | 10. 12.6 seconds    |         |

### JULY 3, 1947 — SHORT GAIT

- |                 |                  |
|-----------------|------------------|
| 1. 11.7 seconds | 6. 11.5 seconds  |
| 2. 11.0 seconds | 7. 11.4 seconds  |
| 3. 12.0 seconds | 8. 10.8 seconds  |
| 4. 11.1 seconds | 9. 10.9 seconds  |
| 5. 11.3 seconds | 10. 10.8 seconds |

To analyze the above—the patient was sent through this frame 64 times over a period of 8 walking days. As you can see, his best times were always around the middle of daily testing, which indicated that he had to break into his task of walking. His slowest times invariably fell at the beginning and ending of his test—the beginning because of tightness and anxiety, and the ending because of fatigue. Missteps were few toward the latter phase of his testing, indicating a return of control which he lacked at the onset. The average was attained on July 2nd, his 7th day of testing, and continued on to the next day. He obtained below the average on his 8th day, indicating over-anxiousness on his part to better even the average.

After the average was obtained, and we were sure that the patient had regained his voluntary control, we lengthened the stride to a normal pace and set the average at 5.8 seconds. The patient was made to approach the frame from 10' back and walk directly into it, the time being started as he entered the frame, and stopping the watch as he brought his last step completely out of the frame on to the floor. The results of this testing were as follows:

JULY 8, 1947 — GENERAL CONDITIONING IN CLINIC

JULY 9, 1947 — GENERAL CONDITIONING IN CLINIC

**JULY 10, 1947 — AVERAGE GAIT — AVERAGE, 5.8 SECONDS**

1. 8.5 seconds	6. 6.4 seconds
2. 6.5 seconds	7. 6.2 seconds
3. 6.2 seconds	8. 6.2 seconds
4. 6.1 seconds	9. 6.2 seconds
5. 6.0 seconds (2)	10. 6.0 seconds

**JULY 11, 1947 — GENERAL CONDITIONING AND BALANCING EXERCISES IN CLINIC**

**JULY 14, 1947 — AVERAGE GAIT**

1. 5.8 seconds	AVERAGE	6. 5.9 seconds
2. 5.8 seconds		7. 5.8 seconds
3. 5.7 seconds		8. 6.2 seconds
4. 5.6 seconds		9. 5.9 seconds
5. 6.0 seconds		10. 6.0 seconds

**JULY 15, 1947 — GENERAL CLINIC WORK**

**JULY 16, 1947 — AVERAGE GAIT**

1. 5.6 seconds	6. 5.6 seconds
2. 5.6 seconds	7. 5.4 seconds
3. 5.2 seconds	8. 5.3 seconds
4. 6.1 seconds	9. 5.6 seconds
5. 5.8 seconds	10. 5.4 seconds

**JULY 17, 1947 — AVERAGE GAIT**

1. 5.5 seconds	4. 5.7 seconds
2. 5.5 seconds	5. 5.6 seconds
3. 5.6 seconds	

To analyze the above testing—we see that there were very few missteps in the whole procedure. The average was obtained on the second walking day. Again we notice below average time, indicating an effort by the patient to make his capabilities compare with the average individual.

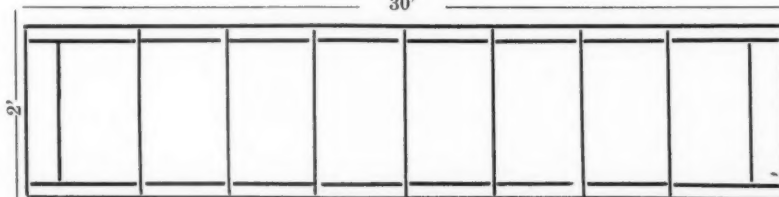
To further elaborate on the patient's capabilities, he has been sent through this frame blind-folded a number of times. Where an average time was established at 39.2, to date his best time is 5.6 seconds, just 16.8 seconds short of average. There isn't a doubt in our minds but that he will reach the average time established in the near future.

The patient is now getting instructions in double time and running from a standing position and from the race's starting position, the latter an excellent medium for balance training.

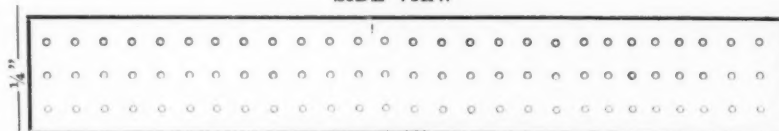
In conclusion, this Walker offers a great many uses: Gait training for ataxia patients, for hemiplegics where the traditional circumductive walk is present, and for arthritic cases where different joint movements are desired. This is obtained because the dowels can be adjusted to any length and height desired. There are probably many more uses for this frame that only the therapist will know, from the different problems that confront him from time to time.

**TOP VIEW**

30'



**SIDE VIEW**



Holes  $\frac{1}{4}$ " Diameter, 2" Apart, 1" From Top



## CORRECTIVE THERAPY ACTIVITIES FOR PRE-FRONTAL LOBOTOMIES

By MURRAY L. APPEL and JOHN METZ, JR.,

Corrective Therapists, Bronx V.A. Hospital,  
New York, N. Y.

In the treatment of the prospective pre-frontal lobotomy patient, we, as corrective therapists, endeavor to secure as much information regarding the patient as possible. This information is of great importance in the psychology used by the therapist in his approach to the patient. Such information is obtained through various means. The ward nurses and attendants are able to give us much knowledge regarding the state of the patient, and how he is acting at the present time. His records will show us much of his past behavior.

Once we have a general idea of what to expect and to look for, our first aim is to establish rapport with the patient. By talking to the patient, if possible, we try to discover his likes and dislikes and treat him accordingly. This individual contact has proven to be very successful in the rehabilitation of regressed patients.

Whenever necessary we introduce a patient into our physical and recreational activities on an individual basis, bearing in mind to advance the patient to group work as he adjusts himself. The individual treatment may begin with merely talking with the patient, and gradually introducing him into a simple one-response athletic skill. For example—catching and returning a ball; bouncing a ball; throwing a quoit at a peg from a short distance, or any other very simple skill. Many times a patient is reached by the efforts of the nurse who is able to contact the patient better than the corrective therapist.

To more objectively rate the results of our work with the pre-frontal lobotomy patients a method of observing has been set up. This method was devised by the corrective therapy department with the approval of a well-known psychiatrist. The "Observation and Findings of Corrective Therapy Activities in Relation to Pre and Post Operative Pre-Frontal Lobotomy" is carried out in the following manner:

The patient is tested twice a day, morning and afternoon, in five activities consisting of calisthenics, ball skills, balloon activities, ring toss and table tennis. The calisthenics are given in the morning and afternoon, whereas the other four are alternated to prevent boredom and repetition in activity. They last ten minutes in duration.

The patients are marked on a zero to three basis; Zero indicates no response, One indicates a lethargic response, Two signifies an average or good response, and Three shows a hyperactive response.

The calisthenic drill consists of five parts:

- (a) Attitude towards activity or how does he react when first approached.
- (b) Attention span is related to the time he stays in the activity.
- (c) Ability to partake in group activity with others.
- (d) Response to simple exercises consisting of one-two counts or easy four count drills.
- (e) Response to complex exercises consisting of four or eight count exercises of various movements.

In the balloon activity consisting of seven parts, the first two are attitude and attention span. The third is competitive skill in a volley ball game using a balloon as a substitute. Four and five consists of color choice and dislike. At the present time we have only five colors, red, yellow, orange, green and blue. These colors give an insight to the patient's emotion at the time of testing. Warm colors excite while cool are depressing. Six and seven indicates the patient's abilities to toss and volley a balloon.

In ring toss, we use indoor quoits and wooden pegs. This activity consists of four sections, "a," "b," and "c," the already mentioned attitude, attention span and ability to compete. Part "d" is coordinated purposeful movement or an indication of the patient's neuromuscular skill with quoits.

Ping-pong is a five part activity consisting of attitude, attention span, competition and ability to volley and serve a ping-pong ball according to rules and regulations.

In ball skills, we use a partially inflated basketball. This is purely for safety reasons in an indoor game. In addition to our attitude, attention span and competition factors we also have to note the ability of a patient to catch, return a ball, bounce a ball and catch in a group with other patients.

As we have mentioned, one of our primary objectives is the resocialization of the patients to society. Thus far in our experiments we found that everyone of the patients have responded better to our activities post-operatively than pre-operatively.

### "NOTES OF INTEREST"

There is a great deal of excellent research work being done by Corrective Rehabilitation therapists in the Veterans Hospitals. Information on these projects should be forwarded to this office for study and publication by the research committee. Mr. Sam Travis, Veterans Hospital, Downey, Illinois, is doing excellent work with acute cases.

We will try to have this information for the next issue of our Journal.

President Jack Jones attended the National Rehabilitation Association Convention in Chicago and made some good contacts there.

Mr. Roland Schwartz has been doing some fine work on membership drive for the Association.

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF PHYSICS  
530 SOUTH EAST ASIAN AVENUE  
CHICAGO, ILLINOIS 60607  
TELEPHONE (312) 937-1234  
FACSIMILE (312) 937-1234  
CABLE ADDRESS: UCHICAGO  
INTERNET ADDRESS: WWW.PHYSICS.UCHICAGO.EDU

### STATEMENT OF WORK

The purpose of this statement is to define the scope of work for the project. The project is to develop a new method for measuring the rate of change of the magnetic field in a plasma. The method will be based on the measurement of the induced electric field in a coil wound around the plasma.

The project will be carried out in two phases. In the first phase, the method will be developed and tested in a laboratory setting. In the second phase, the method will be used to measure the rate of change of the magnetic field in a plasma in a fusion reactor.

The project will be carried out by a team of scientists and engineers. The team will be led by the Principal Investigator, who will be responsible for the overall direction of the project. The team will also include several graduate students and postdoctoral fellows who will be responsible for the day-to-day work of the project.

The project will be funded by the National Science Foundation. The Principal Investigator will submit a proposal to the NSF for funding. The proposal will describe the project and the qualifications of the team. The NSF will review the proposal and decide whether to fund the project.

The project will be completed by the end of the year. The Principal Investigator will submit a final report to the NSF. The report will describe the results of the project and the conclusions that were reached. The NSF will review the report and decide whether to fund the project again in the future.

The project will be a significant contribution to the field of plasma physics. The new method for measuring the rate of change of the magnetic field in a plasma will be a valuable tool for scientists and engineers. The project will also provide training for several graduate students and postdoctoral fellows who will be working on the project.

